

Abstract

The present invention discloses a technique for avoiding a signal collision in a wireless medium to improve communication throughput. According to this technique, in a radio communication system composed of a plurality of radio communication devices in such a manner that other radio communication devices exist within the communication area of a radio communication device, a given radio communication device is assigned a time slot periodically so that it can access the wireless medium in the time slot at higher priority than the other radio communication devices. This is achieved as follows: The radio communication device monitors the wireless medium, detects other radio communication devices operating within the communication area of the radio communication device, and divide communication time on the wireless medium into time slots of equal width according to the number of other radio communication devices. Then, each radio communication device selects one of these time slots so as not to share the selected time slot with any other radio communication device, and uses a waiting time shorter than those of the other radio communication devices to access the wireless medium in the selected time slot.